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## **The USENIX Association Newsletter**

**Volume 9 Number 2**

**April 1984**

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## NOTICE

*;login:* is the official newsletter of the USENIX Association, and is sent free of charge to all members of the Association.

The USENIX Association is an organization of AT&T licensees, sub-licensees, and other persons formed for the purpose of exchanging information and ideas about UNIX<sup>†</sup> and UNIX-like operating systems and the C programming language. It is a not-for-profit corporation incorporated under the laws of the State of Delaware. The officers of the Association are:

President	Lou Katz	Directors	Bruce S. Borden
Vice-President	John L. Donnelly		Alan G. Nemeth
Secretary	Lewis Law		Deborah K. Scherrer
Treasurer	Thomas Ferrin		Waldo M. Wedel

The editor of *;login:* is Tom Strong.

Member services are provided through the Association office. Membership information can be obtained from the office:

USENIX Association  
P.O. Box 7  
El Cerrito, CA 94530  
(415) 528-UNIX

Members of the UNIX community are heartily encouraged to contribute articles and suggestions for *;login:*. Your contributions may be sent to the editor electronically at

ucbvax!g:usenix

or through the U.S. mail to the Association office at the address above. The USENIX Association reserves the right to edit submitted material.

*;login:* is produced on UNIX using *troff* and a variation of the *—me* macros. We appreciate receiving your contributions in *n/troff* input format, using any macro package. If you contribute hardcopy articles please leave left and right margins of 1" and a top margin of 1½" and a bottom margin of 1¼". Hardcopy output from a line printer or most dot-matrix printers is not reproducible.

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<sup>†</sup>UNIX is a trademark of Bell Laboratories.

## Summer 1984 USENIX Conference

The USENIX Association will hold its 1984 Summer Conference in conjunction with Software Tools Users Group, Inc., in Salt Lake City, Utah, June 12–15, 1984. The meeting is organized with a single track of program talks and a second track of workshops.

<b>Meeting Headquarters</b>	Hotel Utah
<b>Exhibit Hall</b>	Salt Palace Center
<b>Conference Host</b>	Department of Computer Science University of Utah
<b>Conference Chair:</b>	Randy Frank University of Utah
<b>Program Committee Co-Chairs:</b>	Jay Lepreau and Spencer Thomas University of Utah
<b>Program Committee</b>	Steve Bellovin Kirk McKusick Mike Muuss Dennis Ritchie
<b>USENIX Conference Coordinator</b>	Wally Wedel NBI, Inc.
<b>USENIX Meeting Planner</b>	Judy DesHarnais
<b>Software Tools Liaison</b>	Barbara Chase Hughes Aircraft
<b>Tutorial Coordinator</b>	Bruce Borden Silicon Graphics, Inc.
<b>Vendor Exhibition Manager</b>	Chuck Bierley Industrial Presentations West
<b>USENIX and Software Tools Tutorials</b>	Tuesday, June 12, 8:30am–5:30pm
<b>USENIX Technical Sessions</b>	Wednesday through Friday June 13–15, 9am–5:30pm
<b>Software Tools Technical Session</b>	Thursday, June 14, 2pm–5:30pm
<b>Vendor Exhibition</b>	Salt Palace Center Tuesday, June 12, 12–7pm Wednesday, June 13, 10am–5pm Thursday, June 14, 10am–5pm
<b>Reception</b>	Snowbird Wednesday Evening, June 13
<b>Final GO Game(s)</b>	Thursday, June 14, 7pm
<b>On-site Registration</b>	Hotel Utah Mezzanine Monday, June 11, 5pm–9pm Tuesday, June 12, 7:30am–9pm Wednesday, June 13, 7:30am–4:30pm Thursday, June 14, 8am–3pm

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On-site registration fees are:

\$175 For 1984 members of USENIX, Software Tools, or EUUG  
\$190 Non-members  
\$ 75 Students

The following tutorials will be presented. As of mid-May, space is still available except as noted.  
On-site registration for a tutorial is \$165.

Contracts

Susan Nycum and James Marcellino  
Gaston Snow & Ely Bartlett

The UNIX System for the Non-Beginner

Steve Bourne  
Silicon Graphics, Inc.

C Style, Portability, and Tools

Eric Allman  
Britton-Lee, Inc.

Advanced 4.2BSD Internals — **sold out**

Mike Karels  
U.C. Berkeley  
Sam Leffler  
Lucasfilm Ltd.  
M. Kirk McKusick  
U.C. Berkeley

TCP/IP on UNIX

Rob Gurwitz  
BBN Laboratories

Introduction to UNIX Networking

Bruce Borden  
Silicon Graphics, Inc.

Introduction to *awk* Programming

Jon La Badie  
Auxton Computer Enterprises, Inc.

Ratfor Programming within the Software Tools Environment

Joseph Sventek  
Lawrence Berkeley Laboratory

There is still a considerable amount of snow on the steeper slopes. The Snowbird resort is planning to be open through the weekend following the conference.

## **Track A: Tentative Schedule of Technical Presentations**

### **Track A — Wednesday, June 13**

#### **9:00—10:30 a.m. Wed-1A UNIX Directions**

Opening Remarks

*Conference Organizers and USENIX Board*

KEYNOTE ADDRESS: An Architecture History of the UNIX System

*Stuart I. Feldman*

Bell Communications Research

UNIX Standards: UNIX Meets Godzilla, or How I Learned to Love the Bomb?

*Michael Tilson*

Human Computing Resources Corporation

#### **10:30—11:00 a.m. Coffee Break**

#### **11:00—12:30 p.m. Wed-2A Mail and News**

ACSNET — The Australian Alternative to *uucp*

*Piers Dick-Lauder and R.J. Kummerfeld* (University of Sydney)

*Robert Elz* (University of Melbourne)

Broadcasting of Netnews and Network Mail via Satellite

*Lauren Weinstein*

The Berkeley Internet Name Domain Server

*Douglas B. Terry, Mark Painter, David W. Riggle, and Songnian Zhou*

U.C. Berkeley

MMDF II: A Technical Review

*Douglas P. Kingston III*

Ballistic Research Laboratory

DRAGONMAIL: A Prototype Conversation-Based Mail System

*Douglas E. Comer and Larry L. Peterson*

Purdue University

#### **12:30— 2:00 p.m. LUNCH**

#### **2:00— 3:30 p.m. Wed-3A Networks and Distributed Processing**

Converting the BBN TCP/IP to 4.2BSD

*Robert Walsh and Robert Gurwitz*

BBN Laboratories

Network Tasking in the LOCUS Distributed UNIX System

*David Butterfield and Gerald Popek*

Locus Computing Corporation

Project Athena

*James Gettys*

Digital Equipment Corporation — MIT/Project Athena

TEMPO — A Network Time Controller for a Distributed Berkeley UNIX System

*Riccardo Gusella and Stefano Zatti*

U.C. Berkeley

#### **3:30— 4:00 p.m. Coffee Break**

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**4:00— 5:30 p.m. Wed-4A Distributed File Systems**

The Version 8 Network File System

*Peter J. Weinberger*

AT&T Bell Laboratories

Towards a Distributed File System

*Walter F. Tichy and Zuwang Ruan*

Purdue University

The Livermore Interactive Network Communication System

*Alex Phillips*

Lawrence Livermore National Labs

Panel on Distributed File Systems

Session speakers and others

**Track A — Thursday, June 14**

**9:00—10:30 a.m. Thu-1A Programming Languages**

An Optimizing Portable C Compiler for the New CDC CYBER 180

*Kok-Weng Lee and Mario D. Ruggiero*

Human Computing Resources Corporation

A Simple Simulation Toolkit in C

*Robert P. Warnock III and Bakul Shah*

Fortune Systems Corporation

An Adaptable Object Code Optimizer for UNIX Systems

*Bill Appelbe and Bob Querido*

U.C. San Diego and NCR Corporation

Using Modula-2 for System Programming with UNIX

*Michael L. Powell*

Digital Equipment Corporation

The FP-Shell

*Manton Matthews and Yogeesh Kamath*

University of South Carolina

**10:30—11:00 a.m. Coffee Break**

**11:00—12:30 p.m. Thu-2A Programming Environments and Window Systems**

SYSTANT: An Integrated Programming Environment for Modular C under UNIX

*Stowe Boyd*

AZREX, Inc.

LIPs: Knowledge Base Development System

*Kiyoki Ohkubo*

PANAFACOM Limited

WINDX — Windows for the UNIX Environment

*Peter E. Collins*

Ithaca Intersystems, Inc.

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The Maryland Window System

*Mark Weiser and Chris Torek*

University of Maryland

A Text-Oriented Terminal Multiplexor for Blits

*Rob Pike*

AT&T Bell Laboratories

**12:30— 2:00 p.m. LUNCH**

**2:00— 3:30 p.m. Thu-3A Kernel I**

A Multiprocessor UNIX System

*Maurice J. Bach and Steven J. Buroff*

AT&T Bell Laboratories

A Demand-paging Virtual Memory Manager for System V

*Richard Miller*

Human Computing Resources Corporation

Resource Controls, Privileges, and other MUSH

*Robert Elz*

University Of Melbourne

A Dynamic Bad-Block Forwarding Algorithm

*Bakul Shah and Robert P. Warnock III*

Fortune Systems Corporation

An Expandable Object-Based UNIX Kernel

*Erik Reeh Nielsen*

NCR Systems Engineering Copenhagen

**3:30— 4:00 p.m. Coffee Break**

**4:00— 5:30 p.m. Thu-4A Kernel II**

Processes as Files

*Thomas J. Killian*

AT&T Bell Laboratories

Memory Management Units and the UNIX Kernel

*Clara S. Lai and Chris Peer Johnson*

UniSoft Systems

Techniques for Debugging XENIX Device Drivers

*Paresh K. Vaish and Jean Marie McNamara*

Intel Corporation

User-Mode Development of Hardware and Kernel Software

*Robert P. Warnock III*

Fortune Systems Corporation

## Track A — Friday, June 15

### 9:00—10:30 a.m. Fri-1A Performance Analysis and Comparisons

Relating Benchmarks to Performance Projections,  
or What Do You Do With 20 Pounds of Benchmark Data?

*Gene Dronek*

Aim Technology

UNIX System V and 4BSD Performance

*Jeffrey P. Lankford*

AT&T Bell Laboratories

Measuring and Improving the Performance of 4.2BSD

*Sam Leffler* (Lucasfilm, Ltd.)

*Mike Karels and M. Kirk McKusick* (U.C. Berkeley)

### 10:30—11:00 a.m.

### Coffee Break

### 11:00—12:30 p.m. Fri-2A Applications, Text Processing, Graphics

The UNIX System HELP Facility

*Thomas W. Butler and Lisa A. Kennedy*

AT&T Bell Laboratories

Adventures with Typesetter (Device) Independent Troff

*Mark Kahrs and Lee Moore*

University of Rochester

The Readers Workbench — A System for Computer Assisted Reading

*Evan L. Ivie*

Brigham Young University

Circuit Design Aids — CDA: A Printed Circuit Board Manufacturing System

*Terry Slattery and Willie McCool*

U.S. Naval Academy

A Transition Diagram Editor

*Charles C. Mills* (U.C. Berkeley)

*Anthony I. Wasserman* (U.C. San Francisco)

### 12:30— 2:00 p.m.

### LUNCH

### 2:00— 3:30 p.m. Fri-3A System Management and Porting

Optical Storage Management Under the UNIX Operating System

*Perry S. Kivolowitz*

SUNY Stony Brook

Automatic Software Distribution

*Andrew Koenig*

AT&T Bell Laboratories

4BSD UNIX TCP/IP and VMS DECNET:

Experience in Negotiating a Peaceful Coexistence

*Van Jacobson, Craig Leres, Joseph Sventek, and Wayne Graves*

Lawrence Berkeley Laboratory

Experiences with a Large Mixed-Language System Running Under the UNIX Operating System

*Richard A. Becker*

AT&T Bell Laboratories

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The Dynamics of a Semi-Large Software Project  
with Specific Reference to a UNIX System Port

*Brian Pawlowski and Alan Filipski*  
Motorola, Inc.

**3:30— 4:00 p.m. Coffee Break**

**4:00— 5:30 p.m. Fri-4A Open Session**

Random Talks

These talks will be scheduled first-come, first-served, with signup beginning Wednesday morning. Ten minutes/speaker, any topic allowed.

### **Track B: Tentative Schedule of Workshops, Projects, Panels**

**2:00— 3:30 p.m. Wed-3B Workshop: How to Teach UNIX**

*Bubette McLeod*, Chair (Informatics General Corp.)  
*Jay Hosler* (User Training Corp.)  
*Stan Kelly-Bootle* (author of "The Devil's DP Dictionary")  
*Bob Nystrum* (Momentum Computer Systems)  
*Jim Joyce* (International Technical Seminars)

**9:00—10:30 a.m. Thu-1B Workshop: TCP/IP and Networking**

*Michael Muuss*, chair (Ballistic Research Lab), and others

**9:00—10:30 a.m. Fri-1B uucp Mapping Project**

What is a Domain?

*Mark R. Horton*  
AT&T Bell Laboratories

Proposal for a uucp/Usenet Registry Host

*Mark R. Horton*, *Karen Summers-Horton*, and *Berry Kercheval*  
uucp Project

Map Gathering Description and Progress Report

*Scott Bradner*  
Harvard University

A Reliable Mail Service for the uucp Net:

Implementation Status Report

*Berry Kercheval*  
Zehntel, Inc.

Panel and Q&A on the uucp Mapping Project

*uucp Project members*

**11:00—12:30 p.m. Fri-2B 4.2BSD Panel and Q&A**

*Kirk Mckusick*, moderator (U.C. Berkeley)  
*Mike Karels* (U.C. Berkeley)  
*Sam Leffler* (Lucasfilms)  
*Robert Elz* (University of Melbourne)  
*Bill Joy and Bill Shannon* (Sun Microsystems)

There may be additional sessions in Track B.

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## **Tenative Schedule for Software Tools Users Group Meeting**

**Thursday, June 14**

**2:00— 3:30 p.m. Thu-3B STUG Session I**

Avionics SimuLation Package: A Large System Application in Ratfor

*Dave Martin*

Hughes Aircraft Company

An Update on the Software Tools Standards Effort

*Bill Meine*

Sun Microsystems

Ada? Yet Another VOS?

*Neil Groundwater*

Analytic Disciplines, Inc.

A *lex* Tool for the VOS

*Vern Paxson*

Real Time Systems Group, Lawrence Berkeley Lab

**3:30— 4:00 p.m. Coffee Break**

**4:00— 5:30 p.m. Thu-4B STUG Session II**

A Portable TOPS-20-like Command Parser

*Nelson Beebe*

Univerity of Utah, Dept. of Physics

Mine Planning Applications in Ratfor

*Mike Norred*

MINESoft

A Ratfor Implementation of KERMIT

*Allan Cole*

University of Utah Computer Center

Future Directions for STUG (open discussion)

*Dave Martin, moderator*

Hughes Aircraft Company

## USENIX Computer GO Tournament — Revised Rules

May 21, 1984  
Peter Langston

1. A full size board will be used.

The board will be  $19 \times 19$  with columns labeled 'A' through 'T' (excluding 'I') left to right, and rows labeled '19' through '1', top to bottom.

2. There will be a time limit.

Each program will be limited to a total of 60 minutes of accumulated "user" time. If a program goes over the time limit it will only be allowed 10 seconds of "user" time for each move (byo-romi). If a program goes over the time limit and uses more than 10 seconds of "user" time for a move it will immediately forfeit the game.

3. There will be no forking.

For various reasons each program must be a single process and must not fork other processes. Forking interferes with the timing mechanism and, like any attempt to evade or fool the timing, would result in a forfeit.

4. A "referee" program will be used.

The tournament will use a "referee" program to execute each competing pair of programs. There will be no command-line arguments, i.e. *argc* will be 1. All communication with the programs will be via the standard input and standard output thus the programs must understand a specific set of commands and generate output of a specific form.

### INPUT

All input commands to the competing programs will be in the form of lines of text appearing on the standard input and terminated by a newline.

- a) The first line of input to each program will be either "black" or "white" (lower case) to indicate which color the program will be playing (and thereby whether the program goes first or second).
- b) The placement of a stone will be expressed as letter-number (e.g. "G7"). Note that the letter is capitalized. Also note that the letter 'I' is not included.
- c) A pass will be expressed as "pass" (lower case).
- d) The command "byo-romi" (lower case) means the time limit has been exceeded and all further moves must be generated within the 10 second time limit.

### OUTPUT

All output from the competing programs will be in the form of lines of characters sent to the "standard output", terminated by a newline, and had better either be flushed after every line or be unbuffered to start with (e.g. via the use of "setbuf(stdout, 0);").

- a) The placement of a stone must be expressed as letter-number (e.g. "G12"). Note that the letter is upper case and that 'I' is not included.
- b) A pass must be expressed as "pass" (lower case).
- c) Any other output lines will be considered garbage and ignored.

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5. "Bad" moves are a forfeit.

Any syntactically correct but semantically illegal move will be considered a forfeit. The three types of illegal move are: playing on a spot already occupied, ko violation, and suicides.

6. The programs must not be idle unnecessarily.

This rule is included to avoid the cases where a program loses synchronization and is waiting for input at the same time the referee program is waiting for input. As an arbitrary measure, if 10 minutes of "real" time elapse with no increase in "user" time it will be assumed that the program is stuck. In such a case the program will forfeit. (Otherwise the program "for (;;) read(0, buf, sizeof buf);" would never lose a match!)

7. Play will continue until both programs pass in sequence.

The programs may pass at any time, but once both pass concurrently the gameplay is over.

8. The decisions of the judge or judges will be final.

A human judge will evaluate each game's results and may fill in missed dame or may judge a game incomplete if too much is unresolved. Japanese rules will be used, (Nihon Kiin).

9. Komi will be 5.5 points.

The second player gets a 5.5 point bonus.

10. The machine will be a VAX 11/780.

The programs will be run on a VAX 11/780 running 4.2BSD. This machine will have 8 megabytes of memory and plenty of disk space.

11. The final game (or games) will be played Thursday.

The schedule will be decided once we know how many programs are submitted. In any event the final game(s) will be played Thursday evening, June 14th, starting just after 7 p.m. We will have a 300 seat room and may have a video projector.

Comments, suggestions, contributions, etc. should be sent to Peter Langston by whatever means available. One possibility is *uucp* (psl on various machines including harpo) another is U.S. Mail to Peter Langston / Lucasfilm Ltd. / P.O. Box 2009 / San Rafael, CA 94912.

## **Australasian UNIX-systems Users' Group 1984 Winter Meeting**

The 1984 winter meeting of the AUUG will be held at Melbourne University on Monday August 27 and Tuesday August 28, 1984. Papers on any subject related to the UNIX system or UNIX-like systems will be considered for the meeting. Prospective authors should send a detailed one page abstract of their talk to Robert Elz at the address below before July 1. Manufacturers desiring to display equipment should also contact Mr. Elz as soon as possible.

For further information contact:

Robert Elz  
Department of Computer Science  
University of Melbourne  
Parkville, Victoria 3052 Australia  
(03) 341 5225  
SUN address: kre:munari

## Local User Group Support Policy

The USENIX Association will support local user groups in the United States and Canada in the following ways:

- Assisting the formation of a local user group by doing an initial mailing for the group. This mailing may consist of a list supplied by the group, or may be derived from the USENIX membership list for the geographical area involved. At least one member of the organizing group must be a current member of the USENIX Association. Membership in the group must be open to the public.
- ;login: will publish information on local user groups. Information on local groups giving the name, address (phone number and/or net address), time and location of meetings, special events, etc. is welcome.

Please contact the USENIX office if you need assistance in either of the above matters. John Donnelly is the Board member to contact if you have comments, suggestions, etc. He may be reached at (303) 337-7900, or hao!denelcor!johnd on *uucp*.

Our current list of local groups follows.

The Front Range group meets about every two months at different UNIX sites for informal discussions.

Front Range Users Group  
N.B.I., Inc.  
P.O. Box 9001  
Boulder, CO 80301  
Attn. Steve Gaede  
(303) 444-5710  
hao!nbires!ceg

Unigroup is a non-profit organization in the New York City area for users and vendors of products and services for UNIX systems. It plans to publish a quarterly newsletter, a local *uucp* directory, and a directory of local companies offering UNIX system products and services.

Unigroup of New York  
G.P.O. Box 1931  
New York, NY 10116

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Dallas / Fort Worth UNIX User's Group  
Advanced Computer Seminars  
2915 L.B.J. Freeway, Suite 161  
Dallas, TX 75234  
Attn. Irv Wardlow  
(214) 484-UNIX

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The UNIX Users of Minnesota meets on the first Wednesday of each month. The June and August meetings will be held at 7:00pm at Augsburg College. There will be no meeting in July. For information on times and locations contact:

UNIX Users of Minnesota  
Carolyn Downey  
(612) 934-1199

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There is an informal group that meets in the Washington, D.C., area every two months or so. The current contact for that group is:

Neil Groundwater  
Analytic Disciplines, Inc.  
Suite 300  
8320 Old Courthouse Road  
Vienna, VA 22180  
(703) 893-6140  
npg@lbl-csam

## **USENIX Conference Proceedings Available**

### **Washington DC UniForum Conference — Winter 1984**

The proceedings of the January UniForum Conference are being produced by /usr/group and will be available in June or July. The price is \$30 per copy, plus \$15 per copy for overseas postage. They may be ordered from:

/usr/group  
4655 Old Ironsides Drive  
Santa Clara, CA 95050

### **Toronto Conference — Summer 1983**

Copies of the proceedings of the Toronto Conference are available for \$30 per copy, plus \$15 per copy for overseas postage. Send your check or money order to:

USENIX Association  
P.O. Box 7  
El Cerrito, CA 94530

### **San Diego UNICOM Conference — Winter 1983**

Copies of the proceedings of the San Diego UNICOM Conference are available for \$25 per copy, plus \$15 per copy for overseas postage. Send your check or money order to:

Software Tools Users Group  
1259 El Camino Real, #242  
Menlo Park, CA 94025

## **Co-operation with EUUG**

To better serve the UNIX community worldwide, The USENIX Association is attempting to strengthen its ties with its sister organizations in foreign countries. We have recently worked out an agreement with the European UNIX System User Group (EUUG) to exchange newsletters, other publications, and distribution tapes for redistribution by our respective organizations. We have also set up effective and frequently used communication channels between our group and theirs. Our collective aim is to have members of both groups feel they are part of a global UNIX users network where information is exchanged freely, services of sister organizations are readily available, and the groups are working in harmony toward common goals.

To initiate this program, USENIX is offering to its members copies of the EUUG newsletter, published 4 times a year. The EUUG publication is generally about 50 pages long and contains many technical articles as well as conference reports and other newsworthy announcements. Copies are available individually for \$4, or \$16 for a full-year subscription. The first issue available is Volume 3, No. 4 (Winter 1983). Anyone interested should send a check or purchase order to the USENIX office.

EUUG distribution tapes are currently being shipped and will be available shortly, as will the EUUG micro catalog and proceedings from the recent EUUG conference held in Nijmegen, The Netherlands. Prices will be announced in the next issue of ;login:.

We are attempting to set up a similar agreement with the Australian UNIX User Group and the New Zealand UNIX User Group.

## UniForum January 1984 — A Report

### Visiting the Zoo in Washington<sup>†</sup>

*Teus Hagen*

Centrum voor Wiskunde en Informatica  
Amsterdam, The Netherlands

#### The Zoo

During the week of the 17th of January 1984 I visited the zoo in Washington. Everyone at my institute thought I was attending a conference in Washington. Well, they were wrong. Instead I visited the zoo in the basement of the Washington Hilton Hotel. According to the figures of the organiser of the conference (/usr/group, USENIX was co-sponsoring it), the floor was crowded with about 9000 visitors. Well, I had three badges, so there were at least 8997 other "Homo Sapiens" around. The zoo also exhibited some elephants (like Pyramid, Gould, and DEC VAXes). Some of the elephants just showed their new offspring, like the MicroVAX. Other cages had the giraffes (NCR tower, Cadmus, Zilog and Gould families), lions (Altos, Zilog and Pixel), work-horses (SUN, Dual, Ridge) and even the little mice were on show (IBM PC/IX, Tandy, Apple and Gould again). In total, 150 different cages in the zoo to bring joy into the life of a simple programmer. Pity, after one and a half days the zoo was closed, the joy was over for Bill.

#### The Exhibition

Some aspects of the exhibition were worthwhile to visit. Choice enough, for nearly all the old UNIX families (hardware and software) presented their goodies. One of the newcomers to the exhibition floor was: AT&T. They showed their Blit (Robert Pike), called the Teletype 5620 and some of the AT&T workbenches.

Amazing was what one can do in a year to have a better quality of UNIX running on a little machine. Let's say experience showed that it cost one year to really have UNIX running after the port is done.

All the big companies had small booths, IBM with the PC/IX machine (based on the Intel 8088 chip) of which the rumour is that the software price will be around \$900!, the three chip manufacturers, Motorola (two types of machine), National Semiconductor (Genix) and Intel (who allowed me this time to run some benchmarks), and the old guys like Amdahl (really fast), Hewlett Packard (neat hardware), NCR (the "Tower"), Honeywell (two types of machine) and Texas Instruments (a newcomer with TI NU). And DEC, who were really the first in the UNIX world, presented their MicroVAX and talking chip. Again no sign of BBN at the exhibition, have they left the UNIX battle field?

The real news was coming from some new manufacturers like Pyramid, Ridge and Silicon Graphics (Steve Bourne is there now). The last showed their space-shuttle flight simulator (3D colour and real time!). That machine filled my eyes with dollar notes. The main trend is to machines based on the Motorola chip, with lots of cache space (4K bytes at least), colour rasters, lots of memory (like 2Mb), and of course super fast (more than 1 MIP).

In general, the market can be divided into four categories of machine:

- A display (white, green, yellow or blue) with a built-in 10Mb Winchester and a floppy. Most do not have real LAN hardware or software capabilities. Personally, I wouldn't like to have one of those awful looking monsters on my desk, even if some of the monsters look like a stack of books (Gould). Most have a dialler, modem and *uucp* possibilities; these WAN capabilities will be discussed later.

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<sup>†</sup>This report originally appeared in the European UNIX Users Group Newsletter and is reprinted here by permission.

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- To try to get away from the awful packaging, the tower-profile was invented (by DEC or NCR?). Almost all manufacturers produce machines in this form (SUN, Pixel, Zilog, Cadmus, etc). Only because of the noise of the fan you will notice the machine under your desk. I could not find the TI NU machine until I saw an advertisement for a low noise fan from Texas Instruments, one does not expect that from someone from Texas.
- Real intelligence can be found in the "workstations". Many of them are sold with a raster display. Some examples are the SUN and Cadmus (PCS in Europe) machines.
- The old computers, which you should hide in a computer room: big boxes like VAX (DEC), Pyramid, Arete and the fast Ridge machine. The Amdahl machine was really hidden somewhere.

Some remarks about the (new) machines:

MicroVAX from DEC: it looks like a Micro-11 and behaves like a child bred from a VAX730 mother and VAX750 father. The child walks away with some short Q-bus based legs.

The new Pixel P/35 breed runs just fine. Like Altos and Cadmus they have a LAN implementation based on the Newcastle ideas.

The Texas Instruments NU machine is nice and quiet. They did some good work on the fans and have a new bus architecture (from MIT).

The Pyramid machine was facing the world with 128 registers (or was it 256) in mind. Another fast brother was the Ridge machine, advertised with a speed of 8 MIPS. It was so fast that I could only discover 4 of its MIPS. Anyway, fast enough for me.

The National Semiconductor 16032 chip runs at 6 MHz now, so the IBM PC/IX machine can now run on the 8088, 68000 and 16032 (both from Sritek). One IBM PC was running with a Fujitsu Eagle (440 Mb) at the Sritek booth.

The new Cadmus firm sure know how to advertise, their black box looked like it came from John Player, and it looks like all you can get out of it is cigarettes. I prefer the same machine in a different shaped box and with software that is really running, perhaps they should ask PCS in Germany how to do it.

On some of the machines a little known benchmark program was run. Due to some requests the results will be reprinted in this newsletter.

## Software

AT&T, Unisoft, Mark Williams, Microsoft, Wollongong, Whitesmith and HCR are trying to take the lead in software. Certainly it is not longer true that there is no software available under UNIX, see the new edition of the "/usr/group" catalogue to get an impression, but also look at the small interesting ones: Sphinx, Unify, and ...

Give me a name and I'll give you a database management package. All kinds of editors, like the interesting "Interleaf" editor, were presented, and Emacs in all shapes, colours and flavours. Network software as if nobody was communicating at all.

## Journals and Other Paper Work

Yes, there can't be a fashion without a journal totally devoted to it. Two new journals totally devoted to UNIX: UNIX Review and UNIX/World. In the latter journal I noticed the best articles. Both carry the same advertisements you find in in Byte, Electronics, Mini Systems, etc. None of the two is pro deo.

Yates were presenting their market overviews.

;login:

### The Decease of the Zoo

What do you bring to home from a zoo? Well, besides some strange disease I collected the following items: collection of T-shirts (thanks to NIXU and SOL); muppets (Computer Automation, Unisoft); the *grep* milk cup (Amdahl); disco cap, screw driver and poster (DEC); screw driver (Sritek); yellow matchbox bus (TI NU); plastified business card (Yates); USENET map (plotted) (HP); the name badge of Bill Joy (USENIX); the name badge of Otis Wilson and Bill Murphy (AT&T); and I'm still waiting for the free IBM PC/IX machine (IBM). Others had nothing but joy for me.

### The Dinner Problem Solved

After one day of walking through an exhibition you get hungry. Well that didn't turn out to be a problem. Every "good" company organises a hospitality suite, and you get invited with an invitation card, but even if you don't get a card, it is still no problem. Every floor in the Hilton Hotel had about three hospitality suites, and as there are only ten floors available in that hotel, it was impossible to leave the hotel without being full of cheese, fruit and liquid. The only problem arose on Friday night, no hospitality suites left.

Yes, AT&T arranged, of course, the biggest "brunch" (or better lunner) than ever.

### Technical Talks

Due to a fully filled agenda with meetings, I had no chance to get a good overview of the talks, some of which promised to be quite interesting.

Some of the panel sessions were guided by managers and (technical) directors of companies. Well, I discovered now that marketing UNIX or talking about the future aspects of UNIX can be made really boring. And surprisingly, the technical panel sessions tend to be the same exercise. It is becoming difficult now to attend some real interesting talks.

So some real new announcements from AT&T: the document workbench (another, better, *ditroff* and lots of document processing stuff), BASIC interpreter, and the MC 68000 software generation system.

The new System V.2 release is out now. It has a few new programs as f.i. mailx, pg, qasurvey and trenter. Lots of improvements like f.i. job control, F77 compiler, shell and new flags for the *ls* command. A better documentation set and lots of bugs solved again.

System V will have a library with "high quality" application programs (editor: third party software) and software for several different computers. The package will be made available in co-operation with a newcomer to the UNIX world, **Digital Research Inc.**

For re-sellers of the System V software there are more flexible royalty schedules. AT&T is talking now to the different OEM's to make new arrangements.

And if we call the initial System V release V.0, and have now V.2 announced, what can we expect if AT&T has internally V.4 and V.6 running? Is V.8 the next one? Or is it just Edition 8 from Bell Labs?

### The UNIX Network is Changing

Most of an afternoon session was dedicated to networking. *uucp* has been re-written, most of the speed-ups are about the same as is distributed with the EUUG D2R3 software. That is: all data about a site is moved to a special "site" sub-directory, the error messages make more sense, the login-protocol handler is table driven, the table has entries for all kinds of modems, diallers, portselectors and internal line configurations. Special care has been taken as regards security, per directory one can specify read, no-read, write, or no-write permissions. Also, the specifications for a site can be made more easily. It works in the same way as the *termcap* file: f.i.

```
logname = uucpa \  
machine = you \ # we call you
```

;login:

```
validate = raven \ #if you say you are "raven", check for logname "uucpa"
commands = rmail:rnews:uucp \
write = /usr/spool/public:/usr/spool/news \
nowrite = /usr \
noread = /etc \
sendfiles = yes
```

Some capabilities have been added: public encryption to identify remote sites, automatic internal data storage/transmission encryption and gateway facilities.

What is still missing was "grading", to get mail sent before news is shipped, and "nicknaming", to facilitate the change of names.

Mark Horton expects to see a fast growth of the total number of sites connected to the UNIX network. Every PC sold now has a modem, sometimes a dialler, and *uucp*. Tandy, IBM and Apple will have a production of some thousands of machines per week, so a figure of 100,000 sites (and names) by the end of 1985 is possible. To try to meet the problems which will come with it, a decision was made to structure the UNIX network in the US in the way it is done in Europe. Within a year one hopes to have created domains of countries, of states or of geographic surroundings, of big companies (AT&T?) and of course with subdomains. The address scheme will be much simpler: *teus@mcvax.UUCP* instead of the string *cbosgd!philabs!mcvax!haring!teus*. The routing information will be kept in the backbone sites, because the database will simply not fit in a PC (yet). Also, time-costs will be included in the routing scheme. An inquiry form to get all the information will be published shortly. The hope is to have a domain oriented addressing scheme in production by the end of this year.

### User Group Arrangements

After the talk of Jim McKie "Where is Europe" at the Toronto conference, the EUUG got ten minutes in the opening session of /usr/group to explain that "Europe is Here" (Emrys Jones). The representatives of the EUUG had some discussions with the US users groups and made the following agreements:

USENIX: all services given by a group are available (at cost price) to the members of the other group, so in essence the only thing you don't get is voting rights in the associated group. For members of the EUUG:

- Publications like newsletters, announcements and proceedings from USENIX are available via the EUUG secretary. The EUUG secretary can arrange bulk shipping of that paperwork, f.i. the EUUG secretary already has copies available of the Toronto Conference Proceedings (500 pages per book). The price is \$30 per copy, if you order it via USENIX you have to pay \$15 extra for overseas postage.
- Software distributions are available via the EUUG Distribution Center. Special arrangements have been made with AT&T to make this exchange of software across the Big Puddle possible. A new distribution is on its way now.
- The attendance fee for USENIX conferences is the same as for USENIX members. All arrangements for those conferences should go via the EUUG secretary.

STUG: The same arrangements were made with the Software Tools Users Group. The EUUG is already distributing the STUG software tapes, and a new tape with the communication software to exchange data between machines with different operating systems will be available soon.

/usr/group: With /usr/group arrangements were made to exchange publications. Final arrangements for bulk shipping of their 1983 catalogue are being made now.

Summary:

- The newsletter *;login:* and the **Toronto Proceedings** can be ordered now from the EUUG secretary (\$30 for the Proceedings).

;login:

- The **USENIX Software Distribution 84.1** can be ordered from the EUUG Distribution Center, CWI, Kruislaan 413, 1098 SJ Amsterdam, Netherlands. This distribution contains licenced material, so you have to enclose a copy of your licence (preferably SV and 4.2BSD). If necessary, the EUUG will verify the licence agreement with the licensor. The tape is expected in a few months.
- The **/usr/group Catalog Edition 83** can be ordered from the EUUG secretary. The EUUG secretary will try to organise bulk shipping. The price is \$25 (exclusive of postage costs). Price to non-members is \$50.

In the future, the secretary of each national group should do the ordering. This will save some time delay as those secretaries will (probably) forward the order electronically to the source.

### Conclusions of the Visit to the Zoo

The exhibition is going in the direction of the Comdex fair shows, some booths had only salesmen around with no real knowledge of UNIX at all (I wonder if in the future there will be any technicians around, just in case a screwdriver is needed?).

The “technical” talks were of a low quality. If not organised in a different way, the talks will end up at the same level as at the Comdex fairs.

A one day course about some “internal aspects of UNIX” (C style and portability, advanced shell programming, advanced editing, UNIX and LANs) for \$100 is really cheap. The general feeling was that those courses were good.

I would like a change in the way the conference is organised now in the US. It is only possible once to get so many people on their feet and give them so little for their money.

## 4.2BSD Bug List

The Computer Systems Research Group (CSRG) of U.C. Berkeley will coordinate the editing, dissemination, and reporting of bugs and fixes on 4.2BSD through Mt. Xinu, which will make bug reports and proposed fixes available to all appropriate parties as a public service. Over 325 bugs have been reported to date.

Mt. Xinu has agreed to collect and edit reports of bugs in 4.2BSD without censoring or evaluating any of these reports. Bug report lists and documentation will be available to any interested party and will be distributed over Usenet and Arpanet. Printed copies of the bug list will be sent on request for no charge. No bug fixes of any kind will be described or included in this publicly distributed bug list.

Mt. Xinu will also collect and edit proposed fixes for the reported bugs. Reported fixes will be available to any party holding a verified applicable AT&T source license. Mt. Xinu will charge a nominal amount for license verification and to make a tape of the proposed fixes.

Proposed fixes will not be available over the networks or other public-access channels. No warranty is given by Mt. Xinu or by CSRG that any bug fixes distributed will be correct, fit for use, or appropriate for any purpose. The fixes distributed will be those suggested by the parties reporting the bugs, all of whom will be suitably identified.

It may be possible in the future for Mt. Xinu or CSRG to make fixed source modules available. Depending on the origin of these fixed modules, there may be a charge beyond a handling fee for this service.

For more information, contact Mt. Xinu, 739 Allston Way, Berkeley, CA 94710, (415) 644-0146.

[We received word at press time that because of outside objections, distribution of the bug list and proposed fixes has been put on hold pending review by the University. —Ed]

## News from USENIX

### Results of the Voting for Officers and Directors of the USENIX Association

A total of 888 ballots were mailed to the 1984 members of the Association who had paid their 1984 dues by May 8, 1984. 341 ballots were returned by the May 15 deadline. In the list of nominees below the persons elected are indicated by an '\*'.

President	* Alan G. Nemeth	Board Members	Bruce S. Borden
Vice-President	* Deborah K. Scherrer		John Donnelly
Secretary	* Lewis A. Law		* Thomas Ferrin
Treasurer	* Waldo M. Wedel		* Steve C. Johnson
			* Lou Katz
			Brian E. Redman
			* Michael D. Tilson

The new Officers and Board members will take office at the Board meeting at the end of the Salt Lake City Meeting.

### 83.2 USENIX Distribution Tapes

The USENIX 83.2 distribution tapes have now been sent to the 1983 Institutional members. There were tapes for four categories of license holders:

Version 7 and later licensing (32V, System III, System V)

PWB

Version 6

No licensing restrictions

All tapes contain the following submissions:

Perkin Elmer:

UTMOST office automation software

Stanford University:

Command line parameter parser

Standard time routines for handling date information

University of Pittsburg:

Zork binary for 4.1BSD

Wisconsin State Hygiene Lab:

System modifications for "block raw mode" tty input

RJE system for UNIX to Univac 1100

Fancy generalized spooling system

Record entry/retrieval system

Tools for patching Version 6 file systems

The Wisconsin submission is the only one containing license-restricted software. Each master tape (other than the Version 7 one, which contains everything) contains a file named "DELETED" which tells which files have been omitted on that tape due to licensing restrictions. To use the Wisconsin software at sites with PWB, Version 6, or binary licenses only, the routines represented by the deleted files will have to be recoded or replaced with existing local versions.

Any 1983 Institutional member who has signed the tape release form and returned it and who has not received their tape should contact the office.

Peter Gross, USENIX Tape Editor

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## **USENIX Now has a UNIX System**

Through the generosity of the Digital Equipment Corporation we now have our own computer. A VAX 11/730, which has been loaned to us for a year, is now up and running. This system will be used to support our office and membership functions, the preparation of ;login:, and other activities such as the Usenet project.

We wish to express our thanks and appreciation to DEC and Bill Munson of the UNIX Support Group at DEC for making this installation possible, and to Mt Xinu for supplying us with our UNIX binary.

Work is proceeding on phone connections, and our network address will be announced in the next issue of ;login: and in net.usenix.

## **Tax Exemption Status for USENIX**

The USENIX Association has filed for both Federal and State Tax Exemption Status under the 501(c)(3) statute. This statute grants tax exemption for charities, educational institutions, and other similar non-profit organizations. The application generally takes several months to process before a decision is announced. Should the application be granted, USENIX would be exempt from paying taxes and would also receive other benefits such as reduced mailing rates.

## **Summaries of USENIX Association Board of Directors Meetings**

### **January Board Meeting**

Summary of Board of Directors Meeting  
Washington Hilton, Washington, DC.  
January 16th and 20th, 1984.

Present: Katz, Borden, Donnelly, Ferrin, Law, Nemeth, Scherrer, Wedel.  
Guests: Various people attended as guests.

### **The Washington Conference**

Dobberton (a representative of a company specialising in production of trade shows and under contract to /usr/group to manage UniForum) and Florio (/usr/group) joined the meeting after some initial discussion. There were problems — the Association had had no input concerning the organisation of the meeting, were not kept informed as to what was being done, but had major financial exposure (45%). The reply was that it was a /usr/group conference — Dobberton had done all the planning and reported solely to /usr/group. It was agreed a subcommittee from each group should be set up to meet and negotiate a list of objectives. Dobberton stated that the meeting in Dallas in Jan. 1985 would probably have 1000 vendor booths. After Florio and Dobberton left the meeting, the technical program was discussed (Bornholdt — Technical Chairman).

### **Financial matters**

Ferrin presented a financial statement prepared by the Association Accountants for the fiscal year ending Nov. 30th, 1983. There was a large federal tax bite. Ferrin was asked to publish the statement in ;login:. Following receipt of a membership application from Florida State University requiring that financial records of the Association be available for public inspection, a motion was passed setting up a defined mechanism for this purpose.

### **Ongoing activities — newsletter, tape distribution, office etc.**

Katz reported there were 6 issues of the newsletter in 1983. A technical editor is needed whose responsibility would be to generate technical articles for publication.

There are 4 new submissions for a second 1983 tape. Peter Gross was doing very well as the new tape editor, but producing the tapes was fraught with problems. Wedel and Scherrer thought it was worth while continuing, although transmission of such information via the net is increasing, regardless of license limitations.

Scherrer thought office operations had improved significantly. The membership database is not in a very good format — a flat file, and needs some attention; a reasonable database system should be implemented. A better method for answering users technical questions is needed — they should be referred to Board members, or anyone knowledgeable who would volunteer.

The VAX 11/730 computer promised by Digital had not arrived, and in fact was being used at the Washington Conference in support of the Digital booth. It was expected that it would be shipped to the office after the conference.

Membership fees were modified after considerable discussion.

Law presented a report from the Nominating Committee chaired by Bob Lummis, submitting a slate of nominees for election. The Committee recommended that the outgoing President become an ex-officio member of the Board of Directors — this was formalised.

Scherrer was pursuing tax exempt status, for which the Board approved some required resolutions. The process seemed to be rather convoluted.

### **Future meetings**

Wedel had set up arrangements at Salt Lake City for the summer meeting June 12th—15th, 1984. A contract had to be finalised with the exhibit contractor, and support for registration had to be found. Arrangements had been made at Portland with the Hilton for Summer of 85, and Atlanta was being considered for June 1986. Other possibilities were Minneapolis, Pittsburgh or Dallas.

Little could be said about the winter meetings until a clearer picture of relations with /usr/group emerged.

### **Relations with /usr/group**

Much of the total time that the Board met was taken up with this issue, as it had a major bearing on future activities. Katz reported that after discussions with Doug Michaels, future cooperation with /usr/group would require running meetings with technical sessions only — no vendor exposition. A set of objectives were formulated as a basis for discussion with /usr/group:

- production of high quality technical conferences
- a partnership between the technical and commercial community
- a positive image for USENIX
- interchange amongst developers of applications
- recognition of the need for technical interchange
- generation of some income on a partnership basis

A subcommittee of Katz, Nemeth and Wedel was appointed to negotiate with /usr/group. The outcome was unpromising: basically /usr/group owned the meeting, and it was to be run by Dobberton, a contractor to /usr/group.

There were a number of problems at the Washington UniForum meeting which had just finished, the most glaring one being the refusal of Dobberton to limit registration for the tutorials, resulting in gross overcrowding and lack of sufficient printed handout materials.

There was a lot of discussion of alternatives: there was a strong feeling amongst some Board members that two meetings a year were necessary, as technical progress is rapid; it was also felt that the

Association should have a visible, identifiable presence in Dallas in Jan. 1985; it was also felt that many members thought it important to attend UniForum in Dallas, so that a conference at another location at the traditional time did not make sense. Eventually it was agreed that a meeting should be held in Dallas in Jan. 1985, overlapping with the UniForum meeting (possibly the Thurs and Fri.), but having no vendor exposition.

Decisions had to be made quickly to reserve hotel space. There was no time to implement suggestions that the membership be consulted on a wide enough scale to make any sense. Decisions on future winter meetings would be held in abeyance until after the Dallas meeting, when some of the problems might be in clearer focus.

The formal actions of the Board at the meeting are given below:

PROPOSED by Katz, seconded by Borden that the membership fee for non-educational Institutional membership be reduced to \$250. In favour 5, opposed 3 (Donnelly, Ferrin, Scherrer). Motion passed.

PROPOSED by Wedel, seconded by Nemeth that the membership fee structure as proposed in the membership application form (Exhibit 1) be adopted, except that the non-educational membership be reduced to \$250, and that the statement of services (Exhibit 2) be accepted. Passed unanimously.

PROPOSED by Scherrer, seconded by Nemeth that the \$6 fee for invoicing for Individual membership be removed. In favour 6, opposed 2 (Ferrin, Katz). Motion passed.

PROPOSED by Nemeth, seconded by Katz that USENIX officially invite a representative of the EUUG to attend UniForum, and that reasonable hotel and living expenses will be paid. In favour 7, absent 1 (Borden). Motion passed.

PROPOSED by Scherrer, seconded by Nemeth that the ex-President become an ex-officio member of the Board of Directors without the right to vote, unless re-elected as a Board member. In favour 6, opposed 1 (Law), absent 1 (Borden). Motion passed.

PROPOSED by Law, seconded by Katz that a vote of thanks to the Nominating Committee for their efforts be put on record. Passed with acclamation.

PROPOSED by Nemeth, seconded by Ferrin that upon request by a member of USENIX, the financial records of the Association will be made available for audit by an independent Certified Public Accountant at the convenience of USENIX, the cost to be borne by the requestor. Passed unanimously.

PROPOSED by Scherrer, seconded by Donnelly that the four resolutions set forth on page 3 of Exhibit 9 be accepted. Passed unanimously.

PROPOSED by Katz, seconded by Scherrer that a committee comprising Katz, Nemeth and Wedel be appointed to negotiate terms and conditions of participation in the Dallas meeting, January, 1985. Specific issues to be addressed include: mechanisms for budget review; policy review of technical program activities; partnership stature in promotion and advertising. In favour 7, absent 1 (Borden). Motion passed.

PROPOSED by Nemeth, seconded by Katz that it is the policy of the USENIX Association to cooperate fully with the European UNIX Users Group. Passed unanimously.

PROPOSED by Scherrer, seconded by Borden that the USENIX office respond to reasonable requests for membership information. In favour 5, opposed 3. Motion passed.

PROPOSED by Nemeth, seconded by Scherrer that Ferrin and Katz be authorised to proceed with the printing of 4.2BSD manuals with a maximum financial exposure to the Association of \$10K, with overall financial cost targeted to be zero. Passed unanimously.

PROPOSED by Borden, seconded by Scherrer that the Board may award membership in the Association in exchange for services rendered. In favour 6, opposed 1 (Katz), abstaining 1 (Law). Motion passed.

PROPOSED by Scherrer, seconded by Nemeth that Mike O'Dell be awarded five years Individual membership in the Association for services rendered. In favour 6, opposed 2 (Katz, Law). Motion passed.

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**PROPOSED** by Borden, seconded by Katz that the honorarium paid to the tutorial lecturers be doubled, and that a request be made that this be a conference expense. Passed unanimously.

**PROPOSED** by Katz, seconded by Nemeth that USENIX hold a technical conference in Dallas in the same week as the /usr/group conference. In favour 5, opposed 3 (Borden, Ferrin, Scherrer). Motion passed.

## **April Board Meeting**

Summary of Board of Directors Meeting  
Hotel Utah, Salt Lake City  
April 2nd and 3rd, 1984.

Present: Katz, Borden, Donnelly, Ferrin, Law, Nemeth, Scherrer, Wedel.

Guests: Steve Johnson, Brian Redman, Mike Tilson, Randy Frank, Judy DesHarnais, John Horn.

### **The Salt Lake City meeting**

Considerable time was spent dealing with routine matters for the forthcoming meeting in June — budgets, tutorials, technical sessions (Chairman Randy Frank), BOFs etc. The meeting will have one or two streams of technical sessions, depending on the quality of the submissions. Proceedings will be available at the start of the meeting, the cost of which is included in registration. There will be a vendor exhibition, the “flavour” of which caused considerable discussion.

### **Financial matters**

Ferrin provided a quarterly financial summary. As the Association has not yet received its share of income from the Washington conference there may be cash flow problems due to initial expenses incurred for the Salt Lake City meeting. Income tax statements have been filed; the Associations place of business has now been moved from New York to California; the process of filing for tax exempt status is under way, but extremely laborious and the outcome is by no means assured.

### **Ongoing activities — newsletter, tape distribution, office, computer**

One edition of the newsletter covering UniForum was published, the next issue is due April 16th. No progress has been made towards finding a Technical Editor. Brian Redman volunteered to persuade people to write material for inclusion. The second 1983 tape distribution was in progress; there were no submissions at the UniForum conference in Washington. The office appeared to be very busy, and there were some administrative problems involved in getting the VAX 11/730 computer to a useful state of operation. Mt Xinu had donated time to install the machine. Incoming technical questions that could not be answered locally were being routed to Board members, and the process appeared to be working smoothly. At Law's request, he was replaced by Scherrer as a member of the Office Committee (Ferrin, Katz, Scherrer).

### **Future meetings**

As noted in the summary of the January Board meeting, the Association is planning to hold a meeting in parallel with the /usr/group meeting in Dallas in January 1985. Wedel had identified several options for conference sites; the dates of the meeting were constrained by hotel availability, and were finally chosen as Wed. through Fri., January 23rd through 25th, at the Fairmont Hotel, about 10 minutes from Infomart where the /usr/group exposition will be held during the same period. Tutorials will be held on Wed., with technical sessions on Thurs. and Fri.

The 1985 summer meeting was under control (Seattle, June 10th—14th). Atlanta was the next meeting, June 1986, followed by San Francisco, Boston and Denver. Borden asked to be relieved of the onerous job of organising tutorials (a great job — Ed); Mike Tilson is considering assuming the task.

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## Manuals

The Board has been negotiating with Berkeley for permission to reproduce and distribute 4.2BSD manuals. The Board authorised Ferrin to proceed, after some review of legal issues. Provisional prices for three volumes were set to be: \$17 User manual; \$18 programmers manual; \$14 System manual.

## Workshops

Workshops are being organised by 3 Board members: Nemeth, with Rob Gurwitz as chair, Distributed Operating Systems, week of Sept. 10, 1984; Katz, Graphics and UNIX, Nov. 4th and 5th, 1984; Wedel, Communications and Networking, date not yet settled. Handouts for the Distributed Operating System workshop will be available at Salt Lake City.

## Other items

Mark Horton et al made a proposal to organise data on *uucp*/Usenet. The proposal was accepted provisionally, and a technical presentation to the Board was requested at the Salt Lake City meeting.

The biennial election of the Board is in progress; ballots went into the mail April 31st, with a return date of May 15th. There was some feeling that the mechanics of the election process need to be revised — more people need to be found to stand as candidates, and a better method of making the candidates known to the membership is needed. Further discussion is slated for the next Board meeting.

It was felt necessary to define what Local Users Groups would be supported, and what support would be provided. It was agreed that LUGs would be limited to the States and Canada (for direct support). Donnelly is to be the coordinator.

Scherrer submitted proposals concerning the redistribution of the Software Distribution tapes outside of North America. She will write letters to the appropriate organisations, giving details based on an agreement with the European UNIX Users Group.

The formal actions of the Board at the meeting are given below:

PROPOSED by Nemeth, seconded by Katz that the proposal for \$3K plus reasonable and proper expenses up to a max. of \$1.5K by Horn for provision of A/V consulting for the SLC conference be accepted; that a preliminary budget for equipment rental be presented tomorrow, followed by a final budget in two weeks; and that Frank act as coordinator. Passed unanimously.

PROPOSED by Nemeth, seconded by Law that STUG receive 10% of the net income from the Salt Lake City meeting, excluding that from tutorials, plus the net from the STUG tutorial after deduction of identifiable expenses (printing, coffee breaks, A/V etc). In favour 7, absent 1 (Borden).

PROPOSED by Scherrer, seconded by Wedel that there be no limit on booth size, but that large booths not be allowed to preempt prime space. For 6, opposed 1 (Katz), abstentions 1 (Borden). Motion passed.

PROPOSED by Law, seconded by Scherrer that walk-in attendees be allowed entrance to the exhibits at a fee of \$20, but that this not be advertised. Passed unanimously.

PROPOSED by Katz, seconded by Scherrer that the following have full complementary registration: all session chairmen, the program committee and one speaker per paper. In favour 3, opposed 4 (Borden, Donnelly, Law, Nemeth), absent 1 (Wedel). Motion failed.

PROPOSED by Nemeth, seconded by Borden that the press, the program committee members and the session chairmen get complementary registration. In favour 7, absent 1 (Wedel).

PROPOSED by Wedel, seconded by Katz that the winter conference be held at the Fairmont Hotel in Dallas during the week of January 21, 1985. Passed unanimously.

PROPOSED by Nemeth, seconded by Katz that USENIX solicit requests for duplicates of the 4.2BSD documentation set based on a selling price of \$17, \$18 and \$14 resp for the User, Programmer and System manuals exclusive of shipping costs and taxes; that Ferrin be authorised to guarantee a run of 1000

;login:

sets to Howard Press to get the process started; and that Ferrin be authorised, based on the number of orders received in a 45 day period, to select a number for a print run, and guarantee that number to Howard Press. For 7, opposed 1 (Donnelly). Motion passed.

PROPOSED by Ferrin, seconded by Scherrer that the Board authorise commitment of funds to support initial expenses for three workshops, not to exceed \$5K each, and contingent upon availability of funds. For 6, absent 2 (Borden, Donnelly). Motion passed.

PROPOSED by Scherrer, seconded by Ferrin that registration for the SLC conference be \$125 for regular registrants and \$50 for students. Passed unanimously.

PROPOSED by Nemeth, seconded by Donnelly that registration for tutorials be set at \$115. For 7, abstentions 1 (Law). Motion passed.

PROPOSED by Wedel, seconded by Scherrer that the proposal for a *uucp*/Usenet Registry Host be accepted; that a monthly status report be circulated on the net; that USENIX reserves the right to cancel the contract on 60 days notice; and that a verbal presentation of the project be made by the proposers at the SLC Board meeting. Passed unanimously.

PROPOSED by Scherrer, seconded by Katz that the effective date of membership be the the date of receipt of application, which must be accompanied by a check or purchase order. Passed unanimously.

## USENIX Treasurer's Report

### Fiscal Year 1983

The following report was prepared for USENIX by the Association's Certified Public Accountant, Mr. Elliott D. Buchdruker, and represents income and expenses between 1 December 1982 and 30 November 1983. Items worth noting are:

- Both our San Diego and Toronto conferences were outstanding financial successes as well as technical successes.
- Our contract with the partnership of Penny, Penny & Strong (PP&S) to provide administrative support for our office was renewed on 1 November 1983. In addition, the Association now has two full time office staff employees, Ms. Betty Madden and Ms. Anita White. Office management fees, clerical salaries, rent and related expenses continue to represent a substantial expense item.
- As always, the newsletter production and mailing continues to be a major expense. In the fiscal year 1983, six issues of *;login:* were produced.
- Travel also continues to be a major expense. The USENIX Board meets regularly four times a year.
- USENIX Association is a non-stock, non-profit Delaware corporation, but currently does not have tax exempt status with the Internal Revenue Service. Progress is now underway to obtain tax exempt status.

In summary, the major income items were dues which provided 37% of income and the two conferences which provided 57% of income. The major expense items were *;login:* (newsletter editor, computer services, printing, duplication and postage) which represents 24% of the expenses, and operation of the USENIX office (office management fees, clerical salaries, rent and office supplies) which represents 44% of the expenses.

If there are additional activities or services which you feel USENIX could provide, please do not hesitate to let us know.

Thomas E. Ferrin, Treasurer

;login:

**Elliott D. Buchdruker**

Certified Public Accountant

Pier 15, The Embarcadero

San Francisco, CA 94111

(415) 362-6204

USENIX ASSOCIATION  
San Francisco, California

The accompanying balance sheet of USENIX ASSOCIATION as of November 30, 1983 and the related statements of income and changes in financial position for the year then ended have been compiled by me.

A compilation is limited to presenting in the form of financial statements information that is the representation of management. I have not audited or reviewed the accompanying financial statements and, accordingly, do not express an opinion or any other form of assurance on them.

Elliott D. Buchdruker

January 9, 1984

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USENIX ASSOCIATION  
BALANCE SHEET  
NOVEMBER 30, 1983  
(Unaudited)

ASSETS

CURRENT ASSETS:

Cash in bank:		
Mechanics Bank	\$ 187	
First Interstate Bank	<u>16,998</u>	\$ 17,185
Marketable securities		128,159
Accounts receivable		3,092
Prepaid expense		<u>8,808</u>
Total current assets		157,244

FIXED ASSETS, AT COST	10,107	
Less - accumulated depreciation	<u>(1,516)</u>	<u>8,591</u>
		<u>\$165,835</u>

LIABILITIES AND FUND BALANCE

CURRENT LIABILITIES:

Income taxes payable		\$ <u>22,521</u>
Total current liabilities		22,521

FUND BALANCE:

Balance, December 1, 1982	\$72,795	
Net income for the year ended November 30, 1983	<u>70,519</u>	<u>143,314</u>
		<u>\$165,835</u>

See accompanying notes to financial statements.

USENIX ASSOCIATION  
STATEMENT OF INCOME  
FOR THE YEAR ENDED NOVEMBER 30, 1983  
(Unaudited)

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## REVENUE:

Membership dues	\$122,174
Conference fees	187,250
Publications, etc.	10,187
Dividend income	6,392
Interest income	10
	<u>326,013</u>

## EXPENSES:

Office management fees	38,169
Computer	17,971
Telephone	5,758
Travel and subsistence	26,257
Refunds	1,676
Postage	14,035
Depreciation	1,516
Outside services	855
Rent	9,821
Salaries, clerical	35,865
Furniture rental	3,200
Equipment rental	5,381
Printing and duplicating	15,190
Office supplies	5,437
Newsletter	6,996
Consulting	8,601
Bad debt	1,211
Taxes and licenses	4,623
Interest	44
Tape services	11,077
Promotion	700
Legal and accounting	4,274
Insurance	150
Logo sketches and graphics	1,139
List maintenance	2,900
Miscellaneous	215
	<u>223,061</u>

Net income before taxes	102,952
Provision for income taxes	<u>32,433</u>

NET INCOME \$ 70,519

See accompanying notes to financial statements.

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USENIX ASSOCIATION  
STATEMENT OF CHANGES IN FINANCIAL POSITION  
FOR THE YEAR ENDED NOVEMBER 30, 1983  
(Unaudited)

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SOURCES OF FUNDS:

Net income	\$70,519
Add - depreciation not requiring a current outlay of cash	<u>1,516</u>
	<u>\$72,035</u>

APPLICATION OF FUNDS:

Purchase of fixed assets	\$10,107
Increase in working capital	<u>61,928</u>
	<u>\$72,035</u>

INCREASE (DECREASE) IN  
WORKING CAPITAL COMPONENTS:

Cash	\$(24,299)
Marketable securities	93,393
Prepaid conference expense	(10,000)
Prepaid expense	4,333
Other receivables	(1,317)
Income taxes payable	(5,027)
Deferred revenue	<u>4,845</u>
	<u>\$ 61,928</u>

See accompanying notes to financial statements.

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USENIX ASSOCIATION  
NOTES TO FINANCIAL STATEMENTS  
NOVEMBER 30, 1983  
(Unaudited)

1. Summary of Significant Accounting Policies

Marketable securities are recorded at cost. Usenix Association uses the direct charge-off method of recognizing doubtful accounts. Property and equipment are recorded at cost. The Company follows the practice of capitalizing all expenditures for property and equipment in excess of \$200. Depreciation is calculated according to the accelerated cost recovery system for property placed in service after 1980. The lives are comparable to those used under generally accepted accounting principles. For all other property, depreciation is calculated over the estimated useful lives of the assets on both the straight line and the accelerated basis. Conference fees are recorded net of expenses.

## USENIX 4.2BSD Manuals

USENIX is sponsoring the printing of 4.2BSD manuals for Institutional and Supporting Members holding a 4.2BSD source license. Sites ordering manuals must sign a simple agreement designating USENIX as their agent for manual duplication. There are no limits on the number of manuals which may be purchased, though it is recommended that sites organize a single order, rather than several (smaller) orders to minimize shipping costs. Further, it is uncertain how long this offer will last, so interested sites are encouraged to order promptly.

### Manual Descriptions

The three manuals which may be purchased are shown below; a detailed description of each volume's contents is given later. All manuals are printed in a photo-reduced 6"x9" format with plastic (GBC) binding. Reference guides have "bleed tabs" to aid location of manuals sections.

UNIX User's Manual (2 volumes)  
Volume 1, Reference Guide  
Volume 2, Supplementary Documents

UNIX Programmer's Manual (2 volumes)  
Volume 1, Reference Guide  
Volume 2, Supplementary Documents

UNIX System Manager's Manual (1 volume)

While some manuals are two separate volumes, you may only order complete manuals; i.e. you **cannot** order a Volume 1 of the User's Manual without also ordering Volume 2.

The manuals are organized differently from the standard 4.2BSD manuals distributed by Berkeley for several reasons:

1. The quantity of material was too thick to permit the style of binding desired.
2. The reorganization permits grouping logically related information.
3. Most users will not have to shoulder the cost of printing material they rarely use.
4. Users may once again have manuals "small enough to fit in their briefcase" (though, of course, more of them)†.

### Manual Contents

#### *UNIX User's Manual, Reference Guide*

The following sections from Volume 1 of the original UNIX Programmer's Manuals (UPM): preface, introduction, table of contents, permuted index, section 1 (commands), section 6 (games), and section 7 (tables). Manual sections have bleed tabs.

#### *UNIX User's Manual, Supplementary Documents*

The following documents from Volumes 2a, 2b, and 2c of the UPM:

7th Edition UNIX — Summary  
The UNIX Time-Sharing System  
UNIX for Beginners  
A Tutorial Introduction to the UNIX Text Editor  
Advanced Editing on UNIX  
Edit: A Tutorial

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† With apologies to Mike Lesk.

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An Introduction to Display Editing with Vi  
Ex Reference Manual  
An Introduction to the UNIX Shell  
An Introduction to the C Shell  
Learn — Computer Aided Instruction on UNIX  
Mail Reference Manual  
Sed — A Non-interactive Text Editor  
Awk — A Pattern Scanning and Processing Language  
Dc — An Interactive Desk Calculator  
Bc — An Arbitrary Precision Desk-Calculator Language  
Typesetting Documents on the UNIX System  
A Revised Version of —ms  
Writing Papers with Nroff Using —me  
—me Reference Manual  
A System for Typesetting Mathematics  
Tbl — A Program to Format Tables  
Some Applications of Inverted Indexes on the UNIX System  
Refer — A Bibliography System  
Writing Tools — The Style and Diction Programs  
Nroff/Troff User's Manual  
A Troff Tutorial  
A Guide to the Dungeons of Doom

*UNIX Programmer's Manual, Reference Guide*

The following sections from Volume 1 of the original UPM: section 2 (system calls), section 3 (libraries), section 4 (devices), section 5 (file formats). All manual sections have bleed tabs.

*UNIX Programmer's Manual, Supplementary Documents*

The following documents from Volumes 2a, 2b, and 2c of the UPM:

The C Programming Language — Reference Manual  
The Franz Lisp Manual  
Berkeley Pascal User's Manual  
Berkeley FP User's Manual  
A Portable Fortran 77 Compiler  
Introduction to the f77 I/O Library  
Assembler Reference Manual  
Lint, A C Program Checker  
UNIX Programming  
4.2BSD System Manual  
A Tutorial Introduction to Adb  
Make — A Program for Maintaining Computer Programs  
Yacc: Yet Another Compiler-Compiler  
Lex — A Lexical Analyzer Generator  
Ratfor — A Preprocessor for a Rational Fortran  
The Programming Language EFL  
The M4 Macro Processor  
Screen Updating and Cursor Movement Optimization  
An Introduction to the Source Code Control System  
A Tour Through the Portable C Compiler

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### *UNIX System Manager's Manual*

Section 8 (maintenance commands) of the original UPM. The following documents from Volumes 2a, 2b, and 2c:

- Installing and Operating 4.2BSD on the VAX
- Building 4.2BSD UNIX System with Config
- Fsck — The UNIX File System Check Program
- 4.2BSD Line Printer Spooler Manual
- Sendmail — An Internetwork Mail Router
- Sendmail Installation and Operation Guide
- A Dial-Up Network of UNIX Systems
- Uucp Implementation Description
- UNIX Implementation
- The UNIX I/O System
- A Fast File System for UNIX
- Disc Quotas in a UNIX Environment
- 4.2BSD Network Implementation Notes
- On the Security of UNIX
- Password Security: A Case History

### **Costs**

The manual prices are shown below. This cost does not include postage and handling, which will vary depending on the quantity ordered and geographical proximity to the publisher, or applicable state or local taxes. Sites ordering manuals will be billed for postage and handling and taxes by the publisher (Howard Press) who is located in New Jersey.

Manual	Cost*
User's Manual (2 volumes)	\$18.50/set
Programmer's Manual (2 volumes)	\$17.00/set
System Manager's Manual (1 volume)	\$ 9.50/manual

\* Not including postage and handling or taxes.

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Manuals are available now. To order return a completed printing authorization and order form to the USENIX office along with a check or purchase order for the cost of the manuals. Checks and purchase orders should be made out to Howard Press. Orders will be forwarded to the publisher after license verification has been completed, and the manuals will be shipped to you directly from the publisher.

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